Preparing Natural Resource Technical Reports

Project Development and Environmental Analysis Branch		Approved: 6/30/11 Version 1.0

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Purpose

The purpose of the procedure is to outline the preparation of a Natural Resource Technical Report (NRTR). The report will be formatted to facilitate transfer of excerpts from the report for inclusion in a NEPA or SEPA document. Although the procedure is written for NEU In-House staff, it also applies to any consultant contracted to produce an NRTR.

Responsibility

The Natural Environment Unit Project Management Group (NEU-PMG) is responsible for managing the associated field work and completion of the NRTR. The Project Planning Engineer (PPE) is responsible for submitting the request for the NRTR in accordance with the Requesting Environmental Input Data from NEU and HEU.

Scheduling and Time Constraints

The NRTR is due on the date agreed to by the PPE and NEU-PMG, which is typically 1 year after the request is made. However, for unusual circumstances, the NEU-PMG should coordinate with the PPE to finalize a due date.

For non-bridge projects, the wetland delineation mapping is due 4 months after the PPE has given all the proper mapping to NEU. For bridges, the wetland delineation mapping is due concurrent with the NRTR.

Consultants will have additional deliverable dates and required status reports that will be agreed upon between the NEU-PMG Project Manager and the consultant.

Procedures

Pre-Field Work	Field Work	Document Submission and Review

Procedure 1: Pre-Field Work

Step 1. Review the U.S. Fish and Wildlife Service's (USFWS) list of Federally Threatened and Endangered Species in North Carolina for the specific county and then the North Carolina Natural Heritage Program (NCNHP) Virtual Workroom or equivalent database for known species occurrences and Critical Habitat Designations.

NOTE: Bald Eagle is to be assessed for all counties. Habitat assessment is required for all candidate species.

Step 2. Schedule field surveys based on the NCDOT Optimal Survey Window lists (plant and animal). The animal list will also indicate who should perform the survey (NEU-PMG or NEU-BSG).

Step 3. Request any needed surveys based on agency comments provided in the EIR from the PPE and initial office investigations by NEU-PM from the NEU Biological Surveys Group (NEU-BSG) as soon as possible to allow time for conducting the survey.

Step 4. Prior to visiting the project study area, conduct, at a minimum, a review of the following:

- Project Study Area provided by PPE
- U.S. Geological Survey (USGS) quadrangle maps
- Natural Resources Conservation Service (NRCS) county soils maps
- NCDOT aerial photography
- USFWS published list of federally protected species for each county and, when applicable, Recovery Plans for the listed species.
- N.C. Natural Heritage Program (NCNHP) database of protected species and rare habitats, noting those species that are aquatic
- N.C. Department of Environment and Natural Resources (NCDENR) and Division of Water Quality (DWQ) water resource information.
- GIS environmental data provided by the N.C. Center for Geographic Information and Analysis

Step 5. Notify the appropriate NCDOT Division Environmental Officer (DEO) or Division Engineer (DE) of the upcoming project field work. Permission from the landowner is not required to access property to perform studies related to NCDOT projects. However, if problems arise as a result of a site visit, contact the PDEA Project Planning Engineer. Reference Landowner Contact Letter procedure. (future link)

Step 6. Upload the study area into the GPS unit (optional but strongly advised).

Step 7. Review the General Field Safety procedure for additional information on pre-field work activities.

Procedure 2: Field Work

This procedure is broken down into three specific tasks

Task 1. Natural Communities Identification

Step 1. Assess all terrestrial and aquatic habitats in the project study area.

Step 2. Classify all terrestrial communities using one of the following:

- NCNHP Classification of the Natural Communities of North Carolina (1990) for undisturbed upland communities.
- Best professional judgment for disturbed upland communities based on dominant vegetation or land use (e.g. Pine Plantation, Agricultural field, Residential Development)
- NCWAM classification for wetland habitats.

Step 3. Record the dominant plant species observed in each terrestrial community by common and scientific name and any wildlife observed or presumed to occur in each community. This includes species on the NCDOT Invasive Species List.

Step 4. Record information on site topography, hydrology, and disturbance history, or other features that may be relevant to the ecology of the area (e.g., rock outcrops, beaver dames, ditches or canals)

Step 5. Classify and describe aquatic habitats (streams, rivers, lakes, ponds, and estuaries) within the study area. Conduct cursory in-stream surveys, where possible based on depth and flow, to identify the presence of aquatic organisms (fish, crayfish, benthic macroinvertebrates, etc.) and to record stream physical characteristics (width, depth, substrate, bank height, clarity, velocity). Artificial ponds do not require survey, but should be described based on the quality of aquatic habitat that they provide.

Task 2. Wetland and Stream Delineation

Step 1. Identify and delineate jurisdictional wetlands within the study area. Flag wetland limits following the guidelines presented in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual and any relevant USACE Regional Supplements. Delineate any transitional boundaries between wetlands under USACE jurisdiction and wetlands under the jurisdiction of NC Division of Coastal Management (NC DCM).

Step 2. First classify wetlands as tidal, riparian, or non-riparian. Then classify the wetlands in accordance with the NC Wetland Assessment Manual (NC WAM).

Prepare the following forms as noted:

- One USACE Wetland Data Form for each wetland along with one form for a corresponding upland area in accordance with 1987 USACE Wetland Delineation Manual and any relevant USACE Regional Supplements.
- NC DEM Wetland Rating Worksheet Fourth Version in accordance with the Guidance for Rating the Values of Wetlands in North Carolina.

Step 3. Identify surface waters in the study area.

Step 4. Determine whether streams are jurisdictional and note whether they are intermittent or perennial. Use the NC DWQ Stream Evaluation Form to make jurisdictional calls when there is ambiguity.

Prepare a USACE Stream Quality Form for streams (either intermittent or perennial) that, in the best professional judgment of the evaluator, appear to be degraded.

For small projects where no Jurisdictional Determination (JD) will be requested:

- Describe the ephemeral streams in the field notes
- Note the location on a field map
- Note any environmental conditions (such as drought) that may affect the call on an ephemeral stream.

Step 5. All wetlands, and when applicable, jurisdictional waters will be located with a GPS Unit. Refer to the NEU GPS/CADD Standards for instructions on preparing the Microstation wetland file. For additional information on using the GPS unit, refer to Consultant GPS-CADD 2010.

Step 6. For river basins that have associated NC DWQ Buffer Rules, determine all features for which the Buffer Rules apply.

Step 7. Identify Areas of Environmental Concern (AEC) under the jurisdiction of the NC Division of Coastal Management (NC DCM).

Step 8. Prepare and submit the JD Package to the appropriate USACE, NC DWQ and/or NC DCM representative. Consultants will submit a draft JD Package to NEU for review before submitting the final JD Package.

Step 9. Schedule a verification site visit with the appropriate USACE, NC DWQ and/or NC DCM representative to verify all wetland, stream, and buffer delineations. Consultants will coordinate all verification site visits with the NEU-PMG Project Manager and the appropriate agencies. Revise the JD forms and mapping based on agency review comments.

Step 10. Provide the resulting determination issued by the regulatory agencies to the NEU-PMG Project Manager and include the documentation in the final NRTR if received prior to final NRTR due date.

Task 3. Threatened and Endangered Species Surveys

Step 1. Determine the optimal survey time (referred to as a survey window) for each federally protected species listed for the county or counties the study area is located in using resource agency-approved optimal survey windows for Plant and Animal species. If the initial field work (Task 1 & Task 2) is performed outside the appropriate survey window and suitable habitat is found, then revisit the study area during the next available survey window. If field surveys are performed after the completion of the NRTR but before the planning document is completed, document the survey results in a survey memo. Post the survey memo on Project Store and email the PPE that the memo is available.

Step 2. Refer to the optimal survey windows for Animal species that are deferred to the NEU-BSG for surveying. If survey assistance from the NEU-BSG is required, the NEU-PMG will submit a request to them using Data Warehouse.

Step 3. Refer to the same survey information in Step 2 for species that NEU-PMG will consult directly with the appropriate resource agency in lieu of an NEU survey.

Step 4. For all protected species surveys, follow the available field survey procedures relative to the species under consideration. For a list of available procedures, refer to the PDEA Procedures Manual Table of Contents.

Step 5. Based on the field survey, produce a biological conclusion. Refer to Rendering a Biological Conclusion procedure.

Procedure 3: NRTR Document Review and Submission

Step 1. The NRTR document will be completed using the NRTR Template and NRTR Guidance.

Step 2. Draft NRTR's will be submitted and reviewed in the following manner:

- NRTR's produced in-house will be reviewed by a peer, the regional manager, and the Assistant Unit Head. Submit the NRTR with the appropriate review sheet.
- NRTR's outsourced through the NEU On-Call Contract will be submitted to the NEU Outsourcing Officer. The consultant will include their QA/QC sheet. The outsourcing officer will submit the draft NRTR packet to the NEU-PMG Project Manager. At a minimum, the NEU-PMG Project Manager and the Regional Manager will review the NRTR. If time allows, an additional peer review can be added.
- NRTR's outsourced as part of a larger PDEA contract will be submitted to the appropriate Project Planning Engineer (PPE) who will submit the draft to the NEU-PMG Project Manager for review using an EIR and Data Warehouse. The consultant will attach their QA/QC sheet to the draft. At a minimum, the NEU-PMG Project manager and the Regional Manager will review the NRTR. If time allows, an additional peer review can be added.
- Draft NRTR submittals from any consultant will contain 1 hard copy with electronic copy of Microstation wex/wet file for review.
- For NRTR's submitted by consultants, the NEU-PMG Project Manager will fill out the comment spreadsheet and provide it to the consultant.

Step 3. Final NRTR's will be submitted in the following manner:

- Submittals will be made to the appropriate person as discussed in Step 1.
- For consultants, responses to review comments must be submitted. NEU reserves the right to not accept the NRTR as final if comments have not been adequately addressed.
- One electronic copy of the NRTR and GPS/Microstation files. For consultants, also submit the PLS letter.
- One stapled copy of the NRTR (It may be spiral bound only if it is too large to be stapled)
- For consultants, one copy of all field notes prepared during site investigations in pdf format.
- For Consultant produced NRTR's, provide the final electronic files on CD or on the FTP site. The NEU-PMG staff will save the file (in pdf format) to Project Store and send an email notifying the appropriate staff that it has been completed. (Link to protocol)

- Electronic file names will be by the Project Store naming conventions. The file containing this information can be found in the Document Library of the PDEA intranet webpage.
- All Final submittals from consultants will contain one hard copy of the NRTR, stapled; a copy of the Microstation wet/wex file, copy of all shapefiles used to create figures, and an electronic copy of the NRTR, text is Word, figures in pdf. Any forms do not have to be submitted electronically. Consultants can place the file on a CD or on the FTP site. In-house staff should save the file to Project Store and indicate it's location on the submittal.
- The hard copy of the NRTR may be spiral bound if the report is too large to staple. Consultants should also include identification of the firm in the introductory text of the report or on a second title page.
- Electronic file names will be by TIP number (i.e. B-1234 NRTR.doc)

Background

The Natural Resources Technical Report (NRTR), particularly as it pertains to Categorical Exclusions (CE), Environmental Assessments (EA), and Environmental Impact Statements (EIS), is an essential component of Federal and State mandated processes associated with NCDOT work. In many cases the natural resources investigation provides critical information necessary for decisions to be made about the location and permitting of NCDOT projects. It is NCDOT's responsibility to maintain a consistent methodology and level of detail in preparing and documenting these natural resources investigations.

Policy, Regulatory, and Legal Requirements

- Clean Water Act
- Coastal Area Management Act
- National Environmental Policy Act 1969 (NEPA)
- Right of Entry for Surveys - G.S. 136-120

Warnings and Precautions

Include any warnings or precautions, such as penalties, fines, or consequences that need to be highlighted under this heading.

Resources and Tools

- Consultant GPS-CADD 2010

Reference books, guidebooks:

- NC Wetland Assessment Manual (NC WAM)
- US Army Corp of Engineers Wetland Delineation Manual
- NCDOT's Best Management Practices for the Protection of Surface Waters
- NCNHP Classification of the Natural Communities of North Carolina (1990)

Forms:

- NC Division of Water Quality Wetland Rating Form

- NC DWQ Stream Identification Form
- Atlantic and Gulf Coastal Plain Wetland Determination Data Form
- Eastern Mountains and Piedmont Wetland Determination Data Form
- US Army Corp of Engineers Stream Quality Form

Contacts

- For suggestions to change this procedure contact: Karen Capps, kbcapps@ncdot.gov
- For questions about performing this procedure contact: Chris Rivenbark, crivenbark@ncdot.gov; Rachelle Beauregard, rbeauregard@ncdot.gov; or Carla Dagnino, cdagnino@ncdot.gov
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Flowchart

- None